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LIVERPOOL. Equatoreal. (Mr. Hartnup.)

1851.	Green. M.T. h m s	R.A. h m s	N.P.D. ° ′ ″	Comp^d—Obs^d R.A. s	Comp^d—Obs^d N.P.D. ″
Feb. 1	9 13 52·1	9 43 53·65	66 33 36·5	−3·43	+5·0
	9 28 49·5	53·02	33·1	−3·42	+4·2
	9 43 46·8	52·45	28·7	−3·47	+4·5

"The parallax and computed places were deduced from the ephemeris published by the superintendent of the *Nautical Almanac.*

"The star of comparison for all the observations was ε *Leonis*. The following is the assumed *mean* place for 1851·0 derived from the Greenwich Observations for 1848.

	R.A. h m s	N.P.D. h m s
ε Leonis	9 37 23·02	65 32 32·68

SATELLITE OF NEPTUNE.

Observations.

STARFIELD. 20-foot Equatoreal. (Mr. Lassell.)

1850.	G.M.T. h m	Position. ° ′	Obs.	G.M.T. h m	Distance. ″	Obs.	
Aug. 15	11 46	40 41	5	12 24	14·65	5	(*a*)
20	12 5	23 35	2				(*b*)
Sept. 8	10 54	47 55	5	11 17	15·64	2	(*c*)
10	10 15	212 33	2				(*d*)
11	9 44	222 3	4	9 44	14·80	1	(*e*)
13	11 9	35 34	3				(*f*)
17	11 20	230 0	estim.				(*g*)
28	10 40	216 29	4	11 3	13·93	4	(*h*)
Oct. 1	9 36	40 3	2	9 12	14·92	4	(*i*)
5	9 34	230 39	3	9 9	16·58	5	(*k*)
Nov. 2	9 2	214 52	3	8 43	13·41	5	(*l*)
8	8 35	215 10	4	8 10	14·61	5	(*m*)

Remarks.

"(*a*.) Circumstances very favourable. Satellite bright and position measures taken easily. Those of distance good, but taken with less facility. Power 614.

"(*b*.) Circumstances very unfavourable. Moon full and very near. Night stormy; and these measures were obtained during a brief interval of clear sky. Power 614. Obliged to close the dome hastily by a heavy shower, which, however, gratified me with a sight of a very beautiful and perfect lunar rainbow, in which the three colours (red, orange, and blue) were very obvious.

"(*c*.) Sky very hazy. Wind easterly, and definition bad. Power 614.

"(*d*.) Atmosphere extremely unfavourable, and the satellite so faint, that no further satisfactory measures could be got.

"(*e*.) Atmosphere bad, and measures taken with great difficulty. Power 366.

"(*f*.) Sky too unfavourable to allow any measures of distance to be taken.

"(*g*.) The almost full moon in the immediate neighbourhood of the planet,

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and the telescope was pointed at the object chiefly out of curiosity to ascertain whether, under the circumstances, the satellite could be seen.

"(*h.*) Satellite very bright and positions easily taken, but the sky became unfavourable while taking the measures of distance. Power 614.

"(*i.*) Bright flashing aurora, and a confused atmosphere. Measures carefully taken, but with a difficulty that might well be termed torture.

"(*k.*) Satellite extremely faint. Finding it very difficult to get measures with power 614, I tried 366, but did not see the satellite so well with this power: and, therefore, observed with the former.

"(*l.*) Sky bright occasionally, but frequently overcast. Wind strong from S.W., and blowing right into the opening of the dome, somewhat shook the telescope.

"(*m.*) Sky so hazy that, though the observations seem coincident, it was perfect torture to get them. Power 614."

Observed Differences of Japetus *and the Centre of* Saturn *in R.A. and N.P.D.* By Mr. Lassell.

1850.		G.M.T. h	m			″			″
Sept.	11	10	0	Japetus	follows	467·3	Japetus	North	25·8
	12	11	20	—	—	500·4			
Oct.	5	11	0	—	—	178·0	—	—	161·2
	9	13	54	—	precedes	9·0	—	—	129·7
	10	11	30	—	—	44·5	—	—	120·4
	11	9	27	—	—	91·2	—	—	109·6
	21	8	30	—	—	453·7	—	South	19·4
	23	11	30	—	—	498·2	—	—	38·7
Nov.	2	11	0	—	—	499·9	—	—	146·2
	8	9	30	—	—	356·2	—	—	154·8
	14	8	40	—	—	112·4	—	—	137·6
	16	10	10	—	—	22·5	—	—	120·8
	21	9	20	—	follows	201·0	—	—	76·0
Dec.	11	9	30	—	—	516·0	—	North	136·5
	12	6	30	—	—	496·0	—	—	140·7
	19	6	50	—	—	296·2	—	—	142·8
	21	10	2	—	—	214·0	—	—	145·0
	24	5	10	—	—	102·2	—	—	136·5

Similar Observations of Hyperion.

1850.		h	m			″			″
Sept.	17	12	36	Hyperion	follows	200·7	Hyperion	North	28·0
Oct.	5	11	30	—	—	270·0	—	South	12·0
	9	13	39	—	—	154·6	—	North	33·6
	11	10	25	—	—	22·0	—	—	40·4
Nov.	8	10	38	—	precedes	152·5	—	South	23·0
	21	9	20	—	follows	119·5	—	North	32·0

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